

Quadratics: Factoring using the Table Method

When a quadratic equation is in standard form

$$y = ax^2 + bx + c$$

then you can use the table method to help factor.

$ax^2 + c$	
	bx

Vertical Vertical
Horizontal Horizontal
Diagonal Diagonal

} saying helps to remember the order to do things

Example: Factor

$$2x^2 - 3x - 5$$

$2x^2 - 5$	
$2x$	1
x	-5

$2x$	
$-5x$	
-7	-1

} add

$$(2x-5)(x+1) \quad 1^{-5x}$$

Example: Factor

$$49x^2 - 28x + 4$$

$49x^2 + 4$	
$7x \quad -2$	$-14x$
$7x \quad -2$	$-14x$
	$-28x$

$$(7x-2)(7x-2) \text{ or } (7x-2)^2$$

Example: Factor

$$15n^2 - 27n - 6$$

$15n^2 - 6$	
$15n \quad -2$	$-30n$
$n \quad 3$	$3n$
	$-27n$

$$(15n+3)(n-2) \quad \text{NFC}$$

$$3(5n+1)(n-2)$$